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Superfund Division Remedial

Response Branch #1

Rod R. Blagojevich, Governor

Eric E. Whitaker, M.D., M.P.H., Director

525-535 West Jefferson Street • Springfield, Illinois 62761-0001 • www.idph.state.il.us  
#909010601H

September 13, 2006

Mr. Lance Range  
1021 North Grand Avenue East  
P.O. Box 19276  
Bureau of Land  
Springfield, Illinois 62797-9276

US EPA RECORDS CENTER REGION 5



441422

Dear Mr. Range:

On September 1, 2006, you requested that the Illinois Department of Public Health (IDPH) review the results of inorganic soil samples taken on July 15, 2006 from the Loewenthal Metals Corp., located at 947 West Cullerton Street in Chicago, Illinois. This letter will summarize our review of the report.

Thirteen readings were taken at the site using an X-Ray Fluorescence (XRF) analyzer. Results were reported for the following inorganics: arsenic, lead, copper, iron, manganese, and zinc.

The following is a summary of the XRF results:

Chemical	Background Concentration (ppm)	Samples Exceeding Background Concentration	Highest Concentration Detected (ppm)
Arsenic	7.4	X-15	589.6
Lead	71.1	All Samples Exceeded Background Concentrations	5,939.2
Copper	28.9	X-13, 14, 15, 16	1,748.8
Iron	17,607	X-11, 13, 14, 15, 16	27,596.8
Manganese	742	X-5, 7	3,200
Zinc	137.9	All Samples Exceeded Background Concentrations	3,648

ppm=parts per million

While numerous samples exceeded background concentrations, the most immediate health issue at this site is the level of the lead contamination in the soil.

Loewenthal Metals Corp. is within a residential neighborhood. According to your report, the site is currently undeveloped without a sidewalk. To the north are residential homes; to the west is an apartment

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complex; and to the east are railroad tracks, residential homes and a school. Due to the location of the school, the site may be receiving a high level of foot traffic by children and adults on their way to and from the school. It also was noted that the site might be used as a residence for a homeless individual and for the use of pick up ball games.

Lead exposure can affect almost every organ and system in the body. The main target for lead toxicity is the nervous system, both in adults and children. Long-term exposure of adults can result in decreased performance in some tests that measure functions of the nervous system. Lead exposure also causes small increases in blood pressure and can cause anemia.

Children are more vulnerable to lead poisoning than adults due to their developing bodies and frequent hand-to-mouth contact. Exposure to lead is more dangerous for young and unborn children. Unborn children can be exposed to lead through their mothers. We have no evidence that lead causes cancer.

Based on the information that was presented in your report we suggest:

1. Remediating the contaminated soil or covering the surface with gravel or black top.
2. Restricting access to the site. Building a fence around the current site would reduce foot traffic to and from the school and also would eliminate the possibility of homeless individuals occupying the site. Also, the fence would keep children from using the site as a ball field.
3. Installing a sidewalk. Providing a sidewalk for individuals to use would greatly decrease the need for people to walk through the lot to get to and from the school.
4. If remediation or restricting access to the site can not be achieved or installing a sidewalk is not possible, the residents of the neighborhood should be informed of the possible health effects of exposure to lead on the site, and how to reduce their exposure. Some ways that individuals can reduce their exposure are:
  - Avoid exposure to the site.
  - Practice good hygiene habits: wash children's hands and faces often, especially before eating and at bed time and make sure toys and objects that children can put in their mouths are clean.
  - Remove shoes before entering the household to prevent tracking contaminated soils inside. Store shoes at entryways.
  - Sweep carpeting, rugs, and upholstery often.

IDPH staff can work with the Illinois Environmental Protection Agency's (Illinois EPA) Community Relations staff should this option be necessary.

If you have further questions feel free to contact me at 217-785-3110.

Sincerely,



Cara Caupert  
Environmental Toxicologist

cc: Mr. James Connelly